

User's Manual of Speed Domes

VPD270, VPD330WD & VPD370WD Series



Please read this manual carefully before installation and operation of the product.

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1. Features

*** Dynamic and precise AF control**

The camera can trace and pick up the object, moving fast from the scene with powerful 324 times(Optical 27x, Digital 12x), 396 times(Optical 33x, Digital 12x), 444 times(Optical 37x, Digital 12x) zoom by greatly improved Auto Focus control.

*** Removable Motorized IR Cut Filter(ICR)**

*** Viewable at total darkness**

The image at daytime displays as True Color with IR Cut filter attached and turns to Clear B/W(color signal removed) mode at night(True Day/Night). With ICR, it comes to IR sensitive and enables the camera to view the scene at total darkness.

***Super Wide Dynamic(sWDR)**

With new powerful DSP system integrated, it makes more 126 times upgraded Backlight compensation than that of existing BLC system

*** High resolution of 550TVL(Color)/ 680TVL(Night)**

*** Powerful 27x/ 33x/ 37x optical zoom**

*** Extremely upgraded sensitivity of 0.7Lux(Sens-up off)/ 0.002Lux(Sens-up, 256x)/ 0.06Lux(B/W)**

Clear difference with built –in Super DSP system and ICR mechanism is to surveil Objects clearly at even a starless dark night. In addition the built –in Dynamic Noise Reduction(DNR) removes noises and ghost effect to have the picture quality greatly improved.

It also saves the DVR's recoding capacity up to 70%.

*** Quick and Easy installation**

Dome base is separated and easily mounted on the ceiling and the main body is simply hooked on it by hand with no tool. No complicated cable connection is additionally required with the built-in one-stop connection mechanism

2. Precaution

Safety Precautions

- * The purpose of this information is to ensure proper use of this product to prevent danger to damage to property.
Please be sure to observe all precautions
- * The precautions are divided into “Warnings” and “Cautions” as distinguished below;
Warning : Ignoring these warnings may result in death or serious injury.
Caution : Ignoring these cautions may result in injury or damage to property.

	
Warning :instructions alert you to the potential risk of death or serious injury	Caution : instructions alert you to the potential risk of injury or damage to property

Warnings

1. Be sure to use only the standard adapter which is specified in the specification sheet.
Using any other adapters could cause fire, electrical shock, or damage to the product.
2. When connecting the power supply and signal wires, check the external connection terminal before connecting them. Connect the alarm signal wires to the alarm terminals, the AC adaptor to the AC power input receptacle, and the DC adapter to the DC power Input, making sure that the correct polarity is observed.
(Connecting the power supply incorrectly may cause fire, electrical shock, or damage to the product.)
3. Do not connect multiple cameras to a single adapter.
(Exceeding the capacity may cause abnormal heat generation or fire.)
4. Securely plug the power cord into the power receptacle.
(Insecure connection may cause fire.)
5. When installing the camera on a wall or ceiling, fasten it securely and firmly.
(A falling camera may cause personal injury)
6. Do not place conductive objects(e.g. screwdrivers, coins, and metal things) or containers filled with water on top of the camera.
(Doing so may cause personal injury due to fire, electrical shock or falling objects)

7. Do not install the unit in humid, dirty, or sooty locations

(Doing so may cause fire or electrical shock.)

8. If any unusual smell or smoke comes from the unit, stop using the product.

In such case, immediately disconnect the power source and contact the store of purchase.

(Continued use in such a condition may cause fire or electrical shock.)

9. If this product fails to operate normally, contact the store of purchase.

Never disassemble or modify this product in any way.

10. When cleaning, do not spray water directly onto parts of the product.

(Doing so may cause fire or electrical shock.)

Wipe the surface with a dry cloth. Never use detergents or chemical cleaners on the product, as this may result in discoloration of surface or cause damage to the finish.

Cautions

1. Do not drop objects on the product or apply strong shock to it. Keep away from a location subject to excessive vibration or magnetic interference.

2. Do not install in a location subject to high temperature(over 122°F), low temperature(below 14°F) or high humidity.

(Doing so may cause fire or electrical shock.)

3. Avoid a location which is exposed to direct sunlight or near heat sources such as heater or radiators.

(Neglecting to do so may result in a risk of fire.)

4. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.

5. Install in a well-ventilated location.

6. Remove the power plug from the outlet when there is a lightning storm.

(Neglecting to do so may cause fire or damage to the product.)

3) Part Names and Functions

■ Body

Video output



Camera Mounting Base

Power(24VAC)

Alarm Input

Relay output

RS-485 DATA



Safety Wire

Decorative Cover(provided)

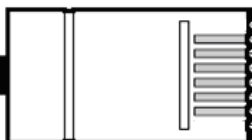
Dome Anchor Ring

Dome Cover

Rotate the dome anchor ring to the left to remove it.
The dome cover is easily damaged
And should be handled with care

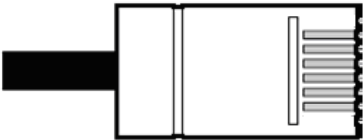
Alarm In/out Cable

Lens



6	ALARM IN 4	RED
5	ALARM IN 3	SHIELD
4	GND	YELLOW
3	GND	BLUE
2	ALARM IN 2	BLACK
1	ALARM IN 1	WHITE

Relay Output Cable



RS-485 Cable



■ Package

6	N.C	
5	COM2	YELLOW
4	OUT2	BLUE
3	COM1	BLACK
2	OUT1	WHITE
1	N.C	
+	TRX+	
-	TRX-	



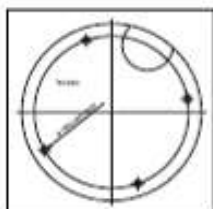
Wide Dynamic 27x, 33x,
37x Zoom Speed Dome
Camera 1EA



Instruction manual
1EA



Decorative cover
1EA



Drilling template
1EA



Tapping screw
4EA

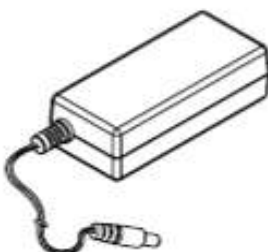


Plastic anchor
4EA



Fixed screw
4EA

[Option]

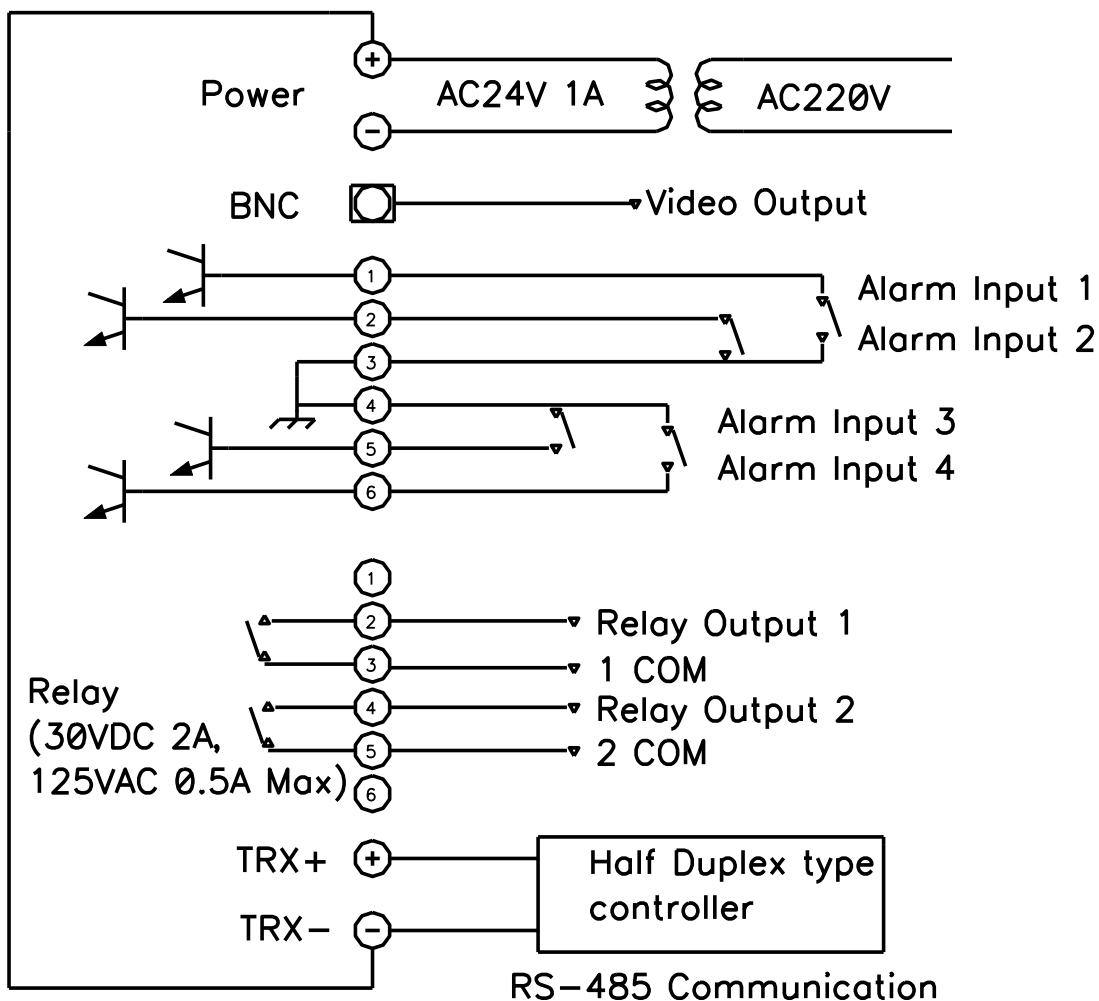


Adaptor (AC24V/2A)
1EA



Adaptor power plug
1EA

■ Camera cable connection

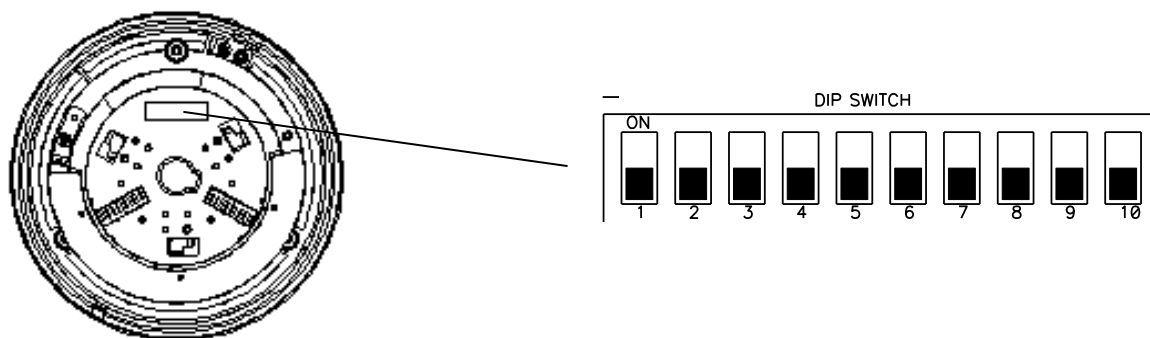


■ DIP SWITCH SETTINGS

In a configuration where the camera's RS485 data port is used for Camera control(pan, tilt, etc.) by the system controller, the camera's DIP switches must be configured to specify the camera ID and communication parameters.

The camera mounting base needs to be removed to access the DIP switches.

See step 1 & 2 on [page ?](#) for the information about how to remove the camera mounting base.



■ Camera ID setting

The factory default settings of these DIP switches are ID 1
(1-ON,0-OFF) SW1~SW8

DIP SW	ID	DIP SW	ID	DIP SW	ID
10000000	1	10101000	21	10010100	41
01000000	2	01101000	22	01010100	42
11000000	3	11101000	23	11010100	43
00100000	4	00011000	24	00110100	44
10100000	5	10011000	25	10110100	45
01100000	6	01011000	26	01110100	46
11100000	7	11011000	27	11110100	47
00010000	8	00111000	28	00001100	48
10010000	9	10111000	29	10001100	49
01010000	10	01111000	30	01001100	50
11010000	11	11111000	31	11001100	51
00110000	12	00000100	32	00101100	52
10110000	13	10000100	33	10101100	53
01110000	14	01000100	34	01101100	54
11110000	15	11000100	35	11101100	55
00001000	16	00100100	36	00011100	56
10001000	17	10100100	37	10011100	57
01001000	18	01100100	38	01011100	58
11001000	19	11100100	39	11011100	59
00101000	20	00010100	40	00111100	60
DIP SW	ID	DIP SW	ID	DIP SW	ID
10111100	61	11000110	99	10010001	137
01111100	62	00100110	100	01010001	138
11111100	63	10100110	101	11010001	139
00000010	64	01100110	102	00110001	140
10000010	65	11100110	103	10110001	141
01000010	66	00010110	104	01110001	142
11000010	67	10010110	105	11110001	143
00100010	68	01010110	106	00001001	144
10100010	69	11010110	107	10001001	145

01100010	70	00110110	108	01001001	146
11100010	71	10110110	109	11001001	147
00010010	72	01110110	110	00101001	148
10010010	73	11110110	111	10101001	149
01010010	74	00001110	112	01101001	150
11010010	75	10001110	113	11101001	151
00110010	76	01001110	114	00011001	152
10110010	77	11001110	115	10011001	153
01110010	78	00101110	116	01011001	154
11110010	79	10101110	117	11011001	155
00001010	80	01101110	118	00111001	156
10001010	81	11101110	119	10111001	157
01001010	82	00011110	120	01111001	158
11001010	83	10011110	121	11111001	159
00101010	84	01011110	122	00000101	160
10101010	85	11011110	123	10000101	161
01101010	86	00111110	124	01000101	162
11101010	87	10111110	125	11000101	163
00011010	88	01111110	126	00100101	164
10011010	89	11111110	127	10100101	165
01011010	90	00000001	128	01100101	166
11011010	91	10000001	129	11100101	167
00111010	92	01000001	130	00010101	168
10111010	93	11000001	131	10010101	169
01111010	94	00100001	132	01010101	170
11111010	95	10100001	133	11010101	171
00000110	96	01100001	134	00110101	172
10000110	97	11100001	135	10110101	173
01000110	98	00010001	136	01110101	174
DIP SW	ID	DIP SW	ID	DIP SW	ID
11110101	175	01010011	202	10100111	229
00001101	176	11010011	203	01100111	230
10001101	177	00110011	204	11100111	231
01001101	178	10110011	205	00010111	232
11001101	179	01110011	206	10010111	233
00101101	180	11110011	207	01010111	234
10101101	181	00001011	208	11010111	235

01101101	182	10001011	209	00110111	236
11101101	183	01001011	210	10110111	237
00011101	184	11001011	211	01110111	238
10011101	185	00101011	212	11110111	239
01011101	186	10101011	213	00001111	240
11011101	187	01101011	214	10001111	241
00111101	188	11101011	215	01001111	242
10111101	189	00011011	216	11001111	243
01111101	190	10011011	217	00101111	244
11111101	191	01011011	218	10101111	245
00000011	192	11011011	219	01101111	246
10000011	193	00111011	220	11101111	247
01000011	194	10111011	221	00011111	248
11000011	195	01111011	222	10011111	249
00100011	196	11111011	223	01011111	250
10100011	197	00000111	224	11011111	251
01100011	198	10000111	225	00111111	252
11100011	199	01000111	226	10111111	253
00010011	200	11000111	227	01111111	254
10010011	201	00100111	228	11111111	255

■ RS485 Communication setting

Configuring DIP Switch as shown below resets communication parameters from the factory default setting by using SW9 and SW10

SW10	SW9	BUAD RATE	PROTOCOL
0	0	9600BPS	PELCO-D
0	1	4800BPS	PELCO-D
1	0	9600BPS	PELCO-P
1	1	4800BPS	PELCO-P

NOTE

Factory Default : 9600bps, PELCO-D

4. Installation

■ Preparing the Camera and Decorative Cover for Side Cable Exit

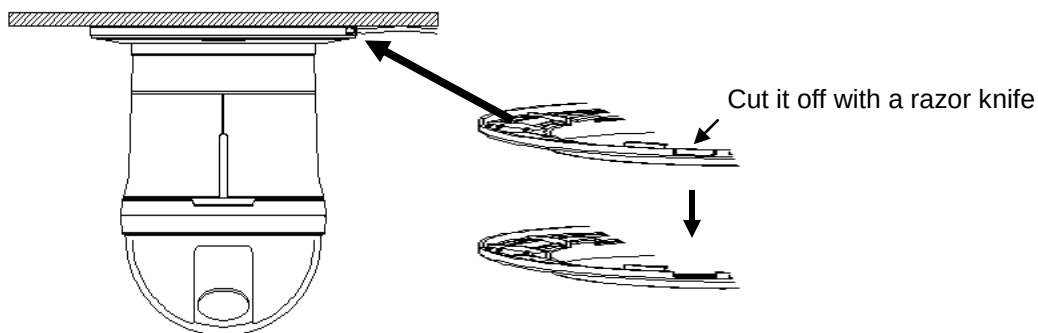
The camera and decorative cover should be prepared as shown below when mounting the camera on a ceiling or wall with its cables(power, video output, RS485, alarm in Relay out) exiting from the side.

The camera mounting base needs to be removed in order to prepare the camera.

See step 1 and 2 below for information about how to remove the camera mounting base.

* Prevent the dome cover from being scratched by placing it on a soft cloth while you are working.

Preparing the Decorative Cover



■ Installing the Camera for Indoor

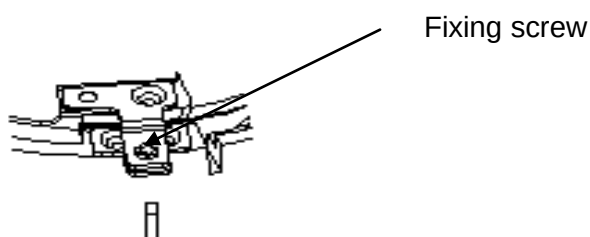
* Select an installation location that is strong enough to withstand the total weight of the camera.

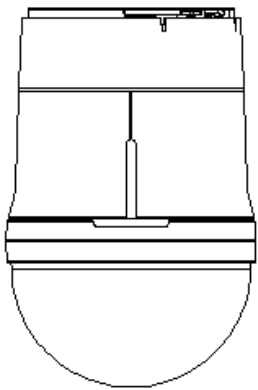
Installing the camera at a location that is too weak can cause it to fall.

* If you are using an optional bracket to install the camera, install the bracket in accordance with the instructions that come with it

1. Remove the fixing screw(M3x6) that secures the camera to the mounting base and put the screw in a place where it will not become lost.

Step 1

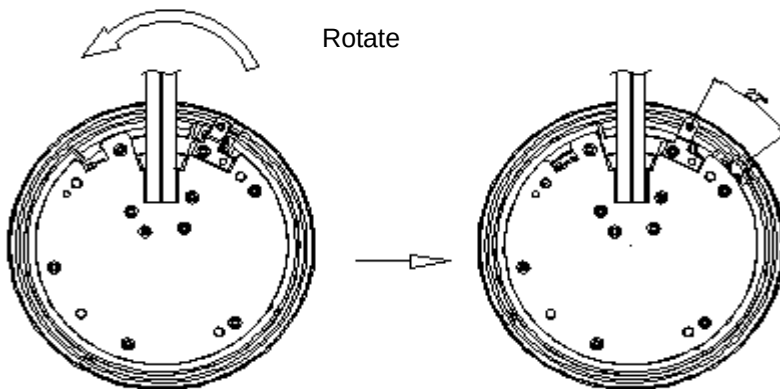




After loosening the screw,
press upwards on the camera and
then remove it

2. Rotate the camera base unit in the direction indicated by the arrow and remove it.

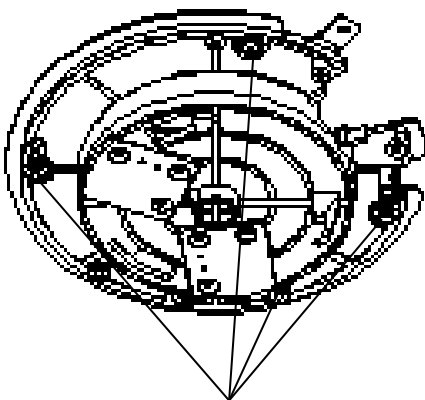
Step 2



Pull the camera
Mounting base
Up to remove it

3. To install the camera mounting base to ceiling, attach a template and drill the holes.

If you are using the top cable exit configuration, drill the top cable exit part to a template.



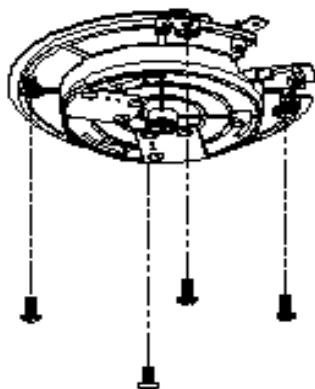
Mark here

Note

When you use the camera mount base without a template, you can mark the location of four mounting holes & drill the holes.

4. Affix the camera mounting base onto the ceiling.

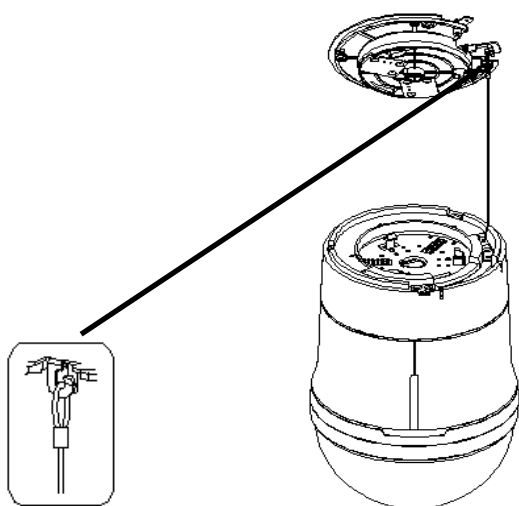
Use screws(M4) at the locations you marked above to secure the mounting base to the ceiling.



Screws
(M4, available separately)

5. Attach the safety wire for securing the camera to the mounting base.

Pull on the safety wire to make sure its ring is securely connected to the mounting base.



Safety Wire Ring

NOTE

The safety wire is designed to allow the camera to hang from it.

Do not apply force greater than the weight of the camera to the wire.

6. Install the camera onto the mounting base.

Aligning with the mounting base, press down on the camera as far as it will go and rotate in the direction indicated by the arrow.

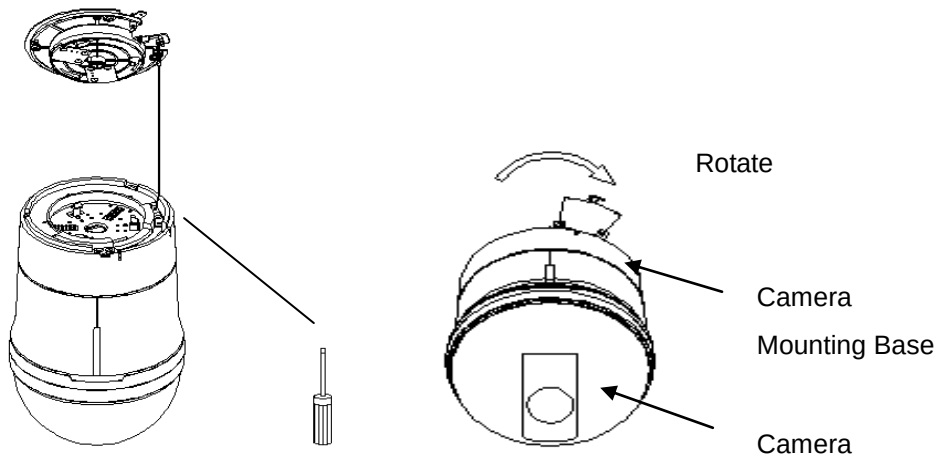
7. Use the fixing screw you removed in step 1 in order to secure the camera to the mounting base.

8. Check the installation

* Is the camera leveled and installed securely?

* Is the camera free to looseness?

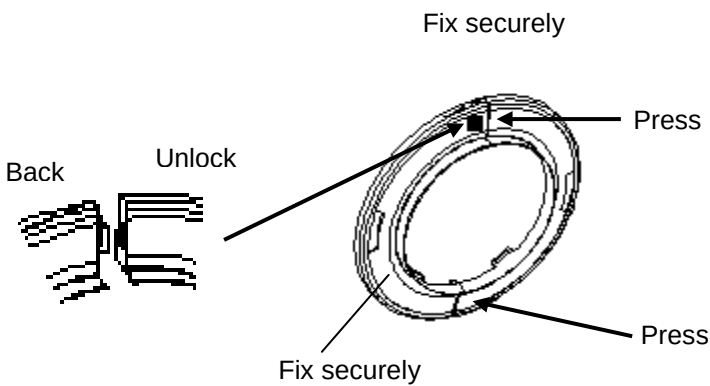
* Does the fixed part of the camera remain in place when you try to rotate it?



9. Separate the two parts of the decorative cover(that comes with camera)

Press upwards on the decorative cover at the points marked ■(indicated by the arrows in the illustration below) to unlock the two parts from each other.

When removing the decorative cover, the direction to press(←) is shown on the side of the decorative cover.



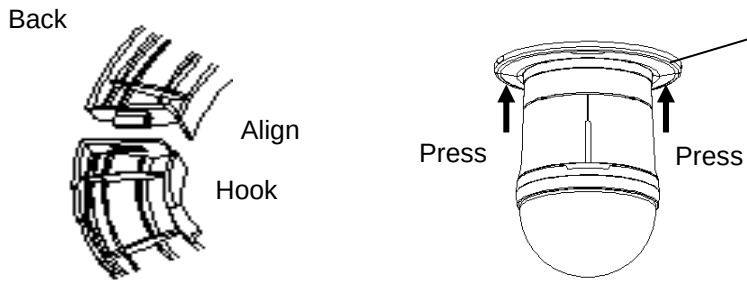
Caution

Pressing up on the wrong side of the decorative cover can damage it.

10. Put the two parts of the decorative cover on the left and right side of the camera and hook them together.

Align the hooks and press one piece indicated by the arrow in the illustration below into the other piece.

Hold securely

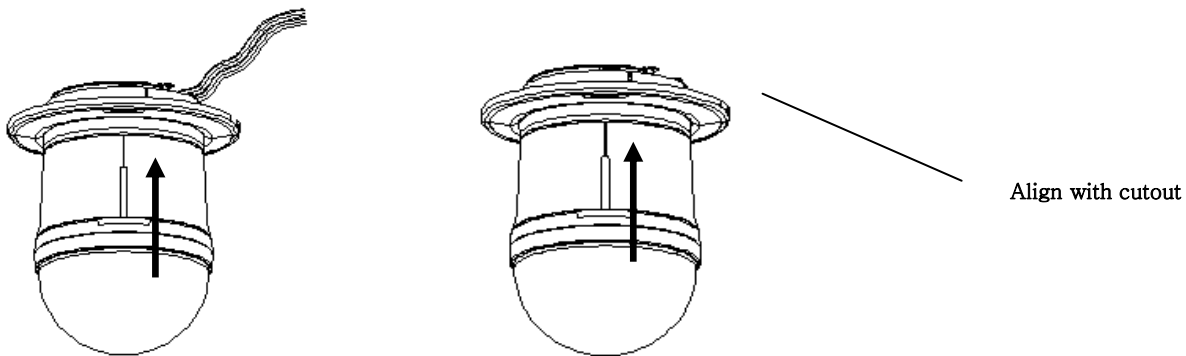


11. In case that the cable exits on the ceiling, fix the decorative cover to the ceiling firmly.

In case that the cable exits to the side, align the cutout in the decorative cover with the cable and slide the decorative cover up firmly against the ceiling.

Top Cable Exit Configuration

Side Cable Exit Configuration



■ Installing the Camera for Outdoor



Features

- * Aluminum body and Polycarbonate Dome Cover.
- * IP66 rated water/dust resistant and remarkable durability.
- * Built-in Fan, Heater & Temperature sensor.

- * Quick and easy to install.
- * Neat design suitable for interior/exterior decoration

Precautions

- * Note that you need to read carefully all contents related to safety and application methods before application.
- * Be sure to use the Safety Wire Ring.
- * Fasten the bracket strong enough to support the camera weight(approx. 5.5Kgs)
- * The locations for installing the housing should be strong enough to fully secure the accessories, and all installations need to be carried out by experienced engineers.
- * Do not use chemicals for cleaning the enclosure as it may damage the surface.

Installation overview



Hexagonal Wrench

4-M4x10 Screw

Wall mount bracket

Wall mount O-Ring

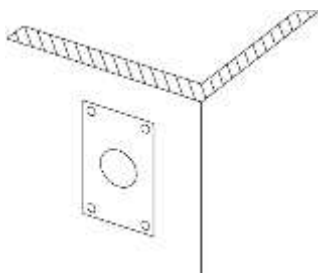
Outdoor Main Body

Indoor Camera

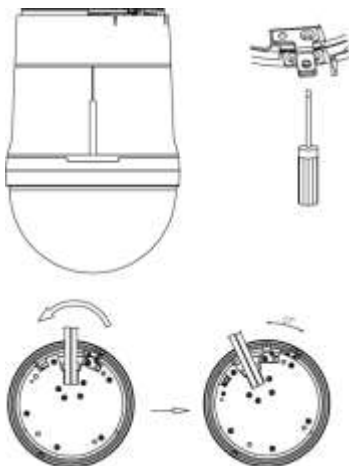
Outdoor Dome Cover

Installation

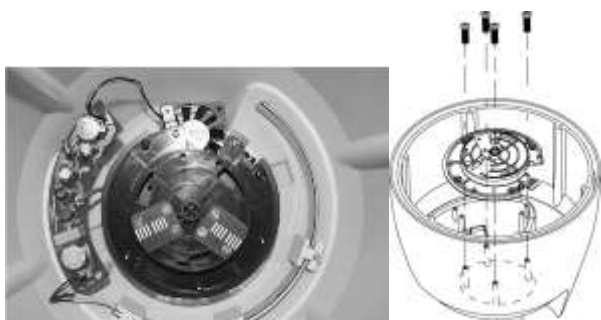
1. Make four holes on the wall using the template provided.



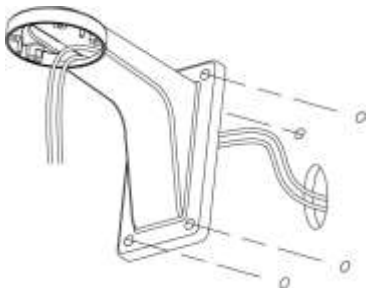
2. After removing the mounting fix screw(M3), rotate the camera mounting base clockwise to remove it.



3. Fix the camera mounting base to the inside of the outdoor main body with the four screws(M4x8)



4. Attach the wall mount bracket to the wall and run cables. Be sure to line up it with for holes in the wall.



5. After inserting an O-Ring to the outdoor main body, attach the main body to the wall mount bracket with four screws(M4x10) by wrench.



6. After attaching the indoor camera to the camera mounting base, turn and fix it clockwise. And tighten the mounting fix screw with screw driver.



7. Insert the M4 x 10 bolt screws to secure the outdoor dome cover to the outdoor main body.



Specification

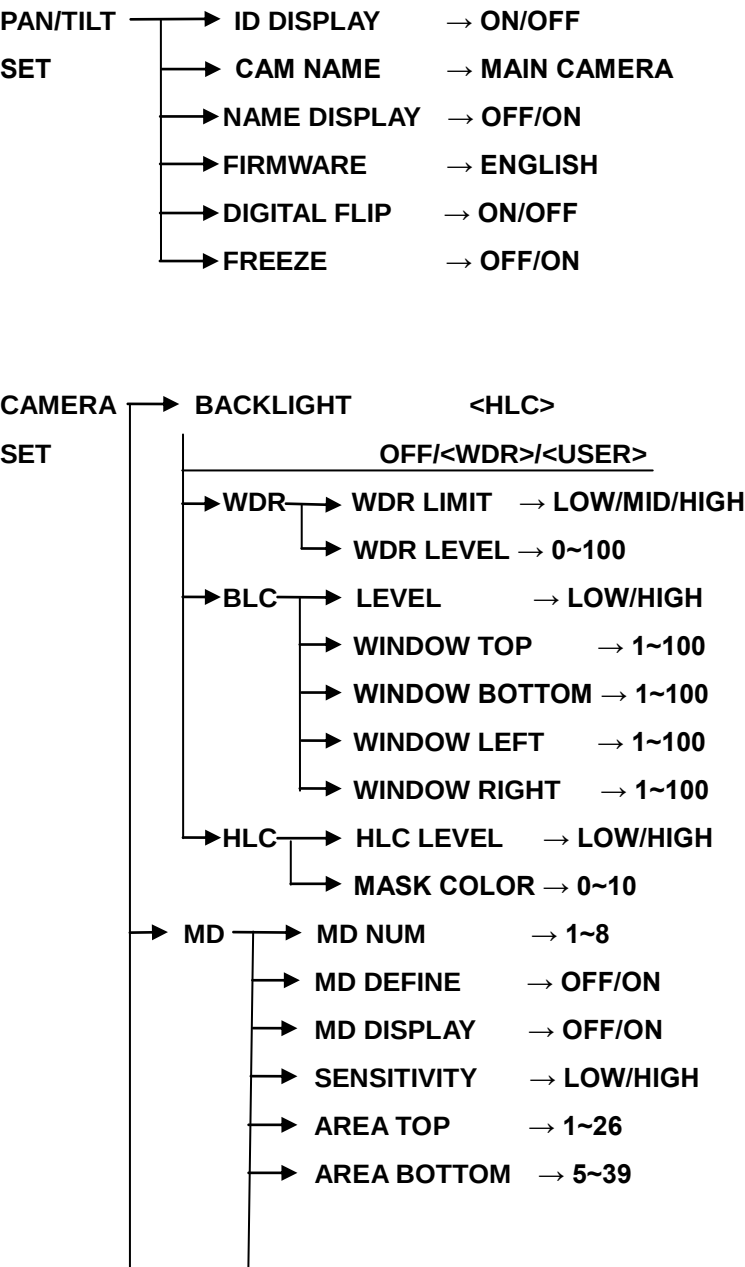
Operating Temperature	-40°C ~ +50°C
Humidity	0 to 90% RH
Power Source	AC24V/1A
Construction	Aluminum & PC Plastic

IP rating	IP66
Fan	AC24V Operating at over 40°C
Heater	AC24V/18W Operating at below 4°C
Weight	5,500g
Dimension(mm)	Ø260 x 367(H)

5. Functional Description

■ Setup Menu Overview

In this chapter, we will look over the overall structure of the Setup Menu and then look at the functions of each menu.



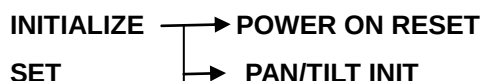
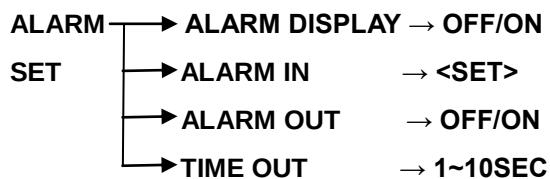
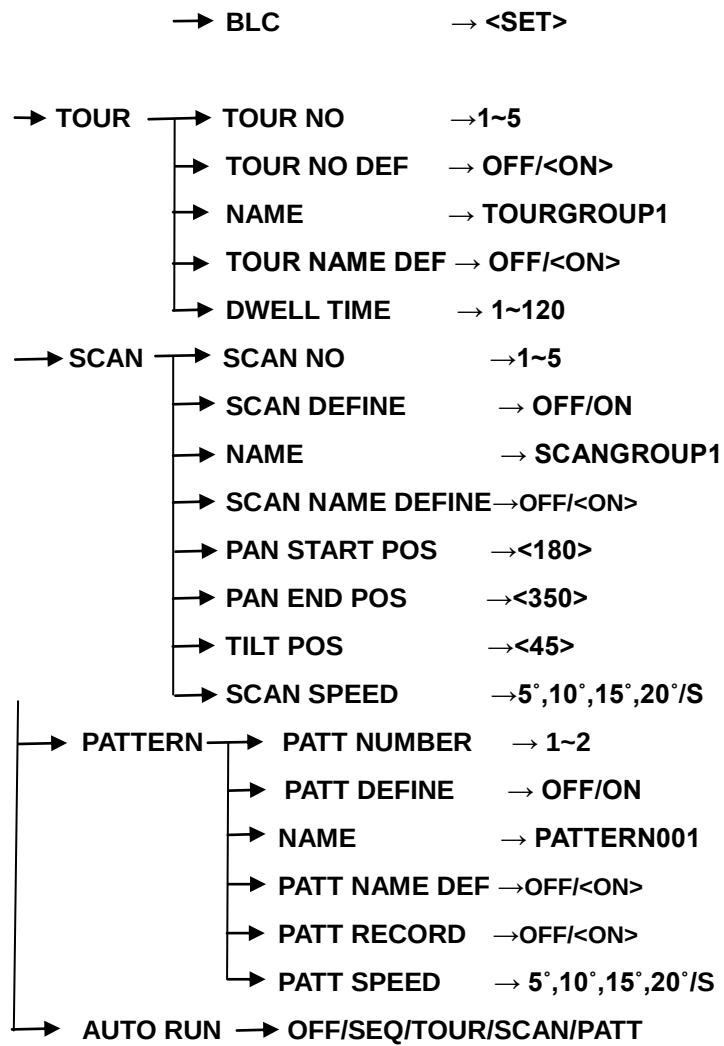
- AREA LEFT → 1~44
- AREA RIGHT → 5~48

- ATW →
 - ATW MODE → ATW/MANUAL/<HOLD>
OUTDOOR/INDOOR
 - MANUAL RED → 0~200
 - MANUAL BLUE → 0~200

- FOCUS →
 - FOCUS MODE → MANUAL/AUTO/ZOOMTG
 - /ZOOM → ZOOM TRK MODE → OFF/ON
 - ZOOM TRK SPD → FAST/SLOW
 - DIGITAL ZOOM → OFF/ON
 - ZOOM MAG → 2X/4X/6X/8X/10X/12X

- AE →
 - BRIGHTNESS → 0~100
 - IRIS → AUTO/MANUAL
 - IRIS MANUAL → F1.6 ~CLOSE
 - SHUTTER → ESC/MAN/A.FLK
 - SHUTTER MAUAL → X256~1/120000
 - AGC → OFF/LOW/MID/HIGH
 - SSNR → OFF/LOW/MID/HIGH
- → DSS → X2~X256, OFF
- DAY →
 - D/N MODE → COLOR/BW/AUTO
 - & NIGHT → BURST MODE → OFF/ON
 - BURST LEVEL → 0~100
 - DURATION → FAST/SLOW
 - FILTER DELAY → 5/7/10/20/30/40/60SEC
- SPECIAL →
 - H-REV → OFF/ON
 - V-REV → OFF/ON
 - DIS → OFF/ON
 - SHARPNESS → 0~100
 - COLOR → 0~100

- AUTOSEQ → PRESET →
 - PRESET NO → 1~128
 - PRESET DEFINE → OFF/<ON>
 - PRESET NAME → OFF/<ON>
 - P/T POSITION → P/T ANGLE
 - BRIGHTNESS → 0~100
 - ATW → <SET>
- SET



- CAMERA INIT
- AUTOSEQ INIT
- PRIVACY ZONE INIT
- FACTORY INIT

System INFO

This diagram shown above illustrates the overall structure of the setup menu.

In this section, a description of the setup menu features will enable users to tailor it to their personal needs.

MAIN MENU

1. PAN TILT SET
2. CAMERA SET
3. AUTOSEQ SET
4. ZONE SET
5. INITIALIZE SET

1. PAN TILT SET

- | | |
|------------------|------------|
| 1. ID DISPLAY: | <ON>/OFF |
| 2. CAM NAME: | MAINCAMERA |
| 3. NAME DISPLAY: | OFF/<ON> |
| 4. FIRMWARE: | ENGLISH |
| 5. DIGITAL FLIP: | ON/ OFF |
| 6. FREEZE: | OFF/ON |

Selection : UP, DOWN, LEFT, RIGHT KEY

Menu open : IRIS OPEN KEY

Menu close : IRIS CLOSE KEY

■ ID DISPLAY – Camera ID appears on the screen.

OFF : The ID does not appear on the screen.

<ON> : The ID appears on the screen.

When changing the location of the ID, press IRIS OPEN KEY in the condition of <ON>. Then, you can move to ID DISPLAY Menu.

■ CAM NAME – Maximum of 10 characters can be input. When changing the camera name, press the IRIS OPEN Key after NAME DISPLAY is set to <ON>.

■ DIGITAL FLIP

OFF : It operates TILT below 90°.

ON : It operates TILT over 90°.

■ FREEZE

When you move to Preset, the screen displays the frozen image of the current displayed preset.

OFF : It displays the current image.

ON : It displays the frozen image.

<Caution>

FREEZE works at TOUR in AUTORUN MODE.

1.1. ID DISPLAY

ID location can be changed as follows.

1. Select <ON> from ID DISPLAY.
2. Press IRIS OPEN KEY.

MOVE: U/D/L/R
EXIT: IRISCLOSE

Selection : UP, DOWN, LEFT, RIGHT KEY

Menu open : IRIS OPEN KEY

Menu close : IRIS CLOSE KEY

3. Press IRIS CLOSE KEY when finished.

1.2 CAMERA NAME DISPLAY

CAMERA NAME: MAINCAMERA
0123456789ABCDEFGH
IJKLMNOPQRSTUVWXYZ
DELETE : <IRISOPEN>
POSITION : <IRISOPEN>

Selection : UP, DOWN, LEFT, RIGHT KEY

Menu open : IRIS OPEN KEY

Menu close : IRIS CLOSE KEY

The method of Camera naming is as follows;

1. Select DELETE and cancel MAINCAMERA by pressing the IRIS OPEN KEY.
2. Move to the desired characters from 0 to Z and press the IRIS OPEN KEY.
3. Repeat step 2 until the name is completed.
4. If you want to change the location of the camera name, select position and press the IRIS OPEN KEY.

How to change the location of camera name is the same as changing ID DISPLAY

2. CAMERA SET

1. BACKLIGHT-----OFF/<WDR>/USER
2. MOTION DET -----<SET>
3. ATW -----<SET>
4. FOCUS/ZOOM -----<SET>
5. AE -----<SET>
6. DAY&NIGHT -----<SET>
7. SPECIAL -----<SET>

2.1. BACK LIGHT

WDR(for Optical 33x/ 37x zoom only), USER AREA & HLC are selectable.

* WDR *

It is an ideal set up for the most of different levels of backlit or contrast lighting situations and provides no darker subjects when there are a dark portion and a bright portion on the screen simultaneously.

* HLC *

It cuts off the strong light like “headlight” to recognize a license plate or subject clear in the entrance of parking garage or at gas station. It doesn’t work at daytime.

* USER AREA*

User can set area to recognize the specific area clear.

2.1.1. WDR LEVEL SETUP

- | | |
|---------------|--------------|
| 1. WDR LIMIT: | LOW/MID/HIGH |
| 2. WDR LEVEL: | 0~100 |

■ WDR LIMIT

Sensitivity of WDR can be controllable to LOW/MIG/HIGH. If the sensitivity gets higher, the contract between dark areas and bright areas becomes lessened.

■ WDR LEVEL

Brightness of WDR image can be wholly adjustable.

<Caution>

1. If SHUTTER is set to MANUAL, WDR function doesn’t work.
2. In case that color of image goes wrong according to the lighting condition and noise occurs in the bright area under WDR selection, do not use WDR function.

2.1.2. BLC USER SETUP

1. WINDOW	OFF/ON
2. LEVEL	LOW/HIGH
3. WINDOW TOP	1~100
4. WINDOW BOTTOM	1~100
5. WINDOW LEFT	1~100
6. WINDOW RIGHT	1~100

Above menu is selectable and adjustable by controller.

2.1.3. HLC LEVEL SETUP

1. HLC LEVEL	LOW/HIGH
2. MASK COLOR	0~10

■ HLC LEVEL

Sensitivity is adjustable.

■ MASK COLOR

Masking color on the high light is adjustable.

2.2. MOTION DETECT

1. MD NUM :	1~8
2. MD DEFINE :	OFF/ON
3. MD DISPLAY :	OFF/ON
4. AREA DISPLAY	OFF/ON
5. SENSITIVITY	LOW/HIGHT
6. AREA TOP	1~26
7. ARA BOTTOM	5~30
8. ARA LEFT	1~44
9. AREA RIGHT	5~48

If MD DISPLAY is set to ON, "MOTION" appears on the bottom right.

Motion Detection doesn't work when OSD MENU is activated.

■ MD DEFINE

When DEFINE is ON, MD AREA can be set up to 8.

■ SENSITIVITY

Sensitivity of Motion Detection is adjustable.

If the sensitivity gets higher, there is a possibility to have incorrect workings.

<Caution>

1. Motion Detection doesn't work in SCAN & PATTERN setting.
2. When user uses MD, DWELL TIME should be set over 3 seconds at least in TOUR setting.
3. If there is a shaken lighting directly, do not set the MD because there may be an incorrect working.
4. If there is an instant change for lights which has an effect on the subject, an incorrect working may occurs.
5. This MD function is for neither fire protection nor antitheft so that provider is free from any responsibilities of the malfunction.

2.3. ATW

1. ATW MODE:	AUTO/MANUAL/<HOLD>/ OUT DR/IN DR
2. MANUAL RED:	0 ~ 200
3. MANUAL BLUE:	0 ~ 200

Menu Shift : UP, DOWN, LEFT, RIGHT KEY

Menu Open : IRIS OPEN KEY

Menu Close : IRIS CLOSE KEY

It is set to White Balance under any lighting conditions.

■ ATW MODE → ATW

White Balance is compensated automatically.

■ ATW MODE → < HOLD >

White Balance will be optimized under the current light condition. If the light condition is changed, White Balance should be readjusted.

It works by pressing IRIS OPEN KEY when < HOLD > is off.

■ ATW MODE → OUT DR

White Balance will be optimized under the outdoor environment.

■ ATW MODE → IN DR

White Balance will be optimized under the indoor environment.

■ ATW MODE → MANUAL

White Balance is adjustable by RED and BLUE gains manually.

<Caution>

1. When it is too dark or bright on the background, White Balance may not function properly.
2. At the place the camera is directed towards the fluorescent light or lighting conditions are changeable, White Balance may work improperly.

2.4. FOCUS/ZOOM

1. FOCUS MODE:	MANUAL/AUTO/ZMTRG
2. ZOOM TRK MODE:	ON/OFF
3. ZOOM TRK SPEED:	FAST/SLOW
4. DIGITAL ZOOM:	OFF/ON
5. ZOOM MAG:	2X/4X/6X/8X/10X/12X

■ FOCUS MODE

* MANUAL

FOCUS is adjustable manually.

* AUTO

FOCUS is adjustable automatically.

* ZMTRG

Whenever ZOOM is changed, FOCUS is also readjusted.

■ ZOOM TRK MODE

When ZOOM is changed in Wide <-> Tele, user can select if FOCUS will be worked or not.

It is applied only to AUTO and ZOOM TRK mode. When user moves ZOOM to a specific area and wants to get faster, ZOOM TRK MODE should be set to Off.

<Caution>

Under the following conditions, AUTO FOCUS may not work properly.

1. When the lux level is too low or too high
2. When a short distance object and a close distance object appear together in a monitoring area.
3. When there is no contrast between Black and White.

■ ZOOM TRK SPEED

The higher value speeds up ZOOM operation.

2.5. AE

1. BRIGHTNESS:	0 ~ 100
2. IRIS:	AUTO/MANUAL
3. IRIS MANUAL:	F1.6 ~ CLOSE
4. SHUTTER:	ESC/MANUAL/A.FLK
5. SHUTTER MANUAL:	X256~1/120000
6. AGC:	OFF/LOW/MID/HIGH
7. SSNR:	OFF/LOW/MID/HIGH
8. DSS:	X2~X256, OFF

■ BRIGHTNESS : Brightness on the screen is adjustable.

■ IRIS

The brightness on the screen can be adjustable depending on the amount of light through exposure meter.

AUTO : The exposure meter is adjusted automatically.

MANUAL : User can adjust the exposure meter manually to optimize the brightness on the screen.

■ SHUTTER

When capturing a subject, moving fast or under low light condition, user can adjust the shutter speed to faster or slower to get improved images.

ESC : Shutter speed is controlled automatically according to the brightness on the screen.

MANUAL : Shutter speed is controlled in 1/20000 ~ X128 manually.

A.FLK : Use this mode when the screen flickers due to the inconsistent frequency under surrounding lights.

In this mode, shutter speed fixed at 1/100 sec. in NTSC system and 1/120 sec. in PAL system.

■ SHUTTER MANUAL

Shutter speed is controllable only when SHUTTER is set to MANUAL.

■ AGC

Auto Gain Control is to brighten the screen under the low light condition.

■ SSNR (DIGITAL NOISE REDUCTION)

Noise is lessened under the low light condition.

OFF : Noise reduction has no effect.

LOW: Noise reduction effect is small but there is little afterimage.

MID: Noise reduction effect generally goes proper and afterimage is not strong.

HIGH: Noise reduction effect is excellent but afterimage is also strong.

■ DSS

By controlling Electronic Shutter, it makes the screen brightened under the low light condition.

However, if user sets higher ratio of DSS, afterimage becomes stronger and Auto Focus may not work.

<Caution>

1. If possible, do not use A.FLK and WDR mode at the same time.
2. In internal synchronization system, if SHUTTER is set to ESC and the camera faces to sunlight or strong light reflecting areas directly, the screen goes wrong. In this case, change the location of the camera.
3. In case that SHUTTER is set to MANUAL or A.FLK, SENSUP LIMIT doesn't work.
4. SSNR doesn't work when AGC is OFF.

2.6. DAY&NIGHT

- | | |
|-----------------|---------------|
| 1. D/N MODE: | COLOR/BW/AUTO |
| 2. BURST MODE: | OFF/ON |
| 3. BURST LEVEL: | 0 ~ 100 |

4.DURATION:	FAST/SLOW
5. FILTER DELAY:	5/7/10/15/20/30/40/60SEC

B/W mode with removed IR cut filter offers crystallized clear image under low light condition. On the contrary, Color mode with replaced IR cut filter works at daytime.

■ D/N MODE

AUTO : Color mode at daytime and B/W mode at nighttime. It is switchable automatically according to the designated lux condition.

■ BURST MODE

OFF : BURST signal is removed.

ON : BURST signal is output with together B/W Luminance signal.

■ BURST LEVEL

BURST LEVEL is adjustable when D/N MODE is COLOR.

■ DURATION

Switching over lux condition is selectable in DAY<->NIGHT

	DAY->NIGHT	NIGHT->DAY
FAST	2.5LUX	4LUX
SLOW	0.8LUX	6LUX

■ FILTER DELAY

The duration of Dwell Time of both the lighting conditions can be customized to let the camera divert between daytime and nighttime settings.

<Caution>

1. When AGC is OFF, AUTO MODE doesn't work while COLOR or B/W mode works.
2. If sunlight or halogen lamp is used in B/W mode, Focus may be blurred or dimmed.

2.7. SPECIAL

1. H-REV:	OFF/ON
2. V-REV:	OFF/ON
3. DIS:	OFF/ON
4. SHARPNESS:	0~100
5. COLOR:	0~100

■ H-REV

The screen flips horizontally.

■ V-REV

The screen flips vertically.

■ DIS

Digital Image Stabilizer compensates the screen from an unstable environment which can move the camera.

■ SHARPNESS

Overall sharpness on the screen is adjustable.

■ COLOR

Overall color density on the screen is adjustable.

3. AUTOSEQ SET

1. PRESET	<SET>
2. TOUR	<SET>
3. SCAN	<SET>
4. PATTERN	<SET>
5. AUTORUN	OFF/SEQ/TOUR/SCAN/PATT

Menu Shift : UP, DOWN, LEFT, RIGHT KEY

Menu Open : IRIS OPEN KEY

Menu Close : IRIS CLOSE KEY

PRESET : Location of the current PAN/TILT and ZOOM can be programmed. In ALARM or TOUR operation, the camera moves to the programmed preset.

SEQ : The programmed PRESET is executed from the lower order successively.

TOUR : PRESET works in GROUP. Up to 5 presets per group can be registered and up to 5 groups can be operated.

SCAN : PAN moves from the starting point and the ending point and up to 5 scans can be set up.

PATTERN : The operation path of PAN/TILT is saved and PATTERN plays PAN/TILT according to the operation path.

■ AUTORUN

OFF : It keeps on Operation Standby condition.

TOUR, SCAN, PATT : They will be executed automatically after user exits OSD MENU.

3.1. PRESET

This function is to move the designated position if user selects the desirable target and location.

1. PRESET NO:	1~128
2. PRESET DEFINE:	OFF/<ON>
3. PRESET NAME:	OFF/<ON>
4. P/T POSITION:	P/T ANGLE
5. BRIGHTNESS:	0~100
6. ATW:	<SET>
7. BLC:	OFF/<WDR>/<USER>/<HLC>

Menu Shift : UP, DOWN, LEFT, RIGHT KEY

Menu Open : IRIS OPEN KEY

Menu Close : IRIS CLOSE KEY

■ PRESET NO

Total 128 presets can be set up.

Change of PRESET NO is done by LEFT and RIGHT KEY.

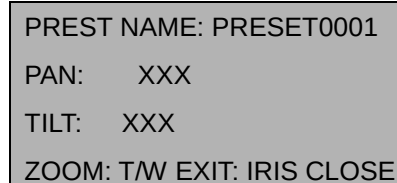
■ PRESET DEFINE

OFF : PRESET doesn't work

ON : Applicable PRESET is workable.

Location change of PAN/TILT/ZOOM in PRESET is as follows.

1. After PRESET DEFINE is changed from OFF to ON, press IRIS OPEN KEY
2. Locate PAN/TILT to the desirable place.



PRESET NAME: PRESET0001
PAN: XXX
TILT: XXX
ZOOM: T/W EXIT: IRIS CLOSE

3. If user wants to the location of ZOOM, press TELE or WIDE button of controller.

4. Finalize PAN/TILT and ZOOM settings by pressing IRIS CLOSE KEY.

■ PRESET NAME

OFF : After PRESET works, PRESET name is not displayed on the screen.

<ON> : After PRESET works, PRESET name is displayed on the screen.

Default of PRESET name is PRESET0001 and the method of editing is as follows.

1. After changing PRESET NAME from OFF to <ON> and press IRIS OPEN KEY.
2. How to edit PRESET NAME is the same as "1.2 CAMERA NAME DISPLAY".

■ BRIGHTNESS

The brightness of the current PRESET is adjustable.

■ ATW

The White Balance of current PRESET is selectable. The setting is as follows.

1. Select ATW menu
2. Press IRIS OPEN KEY in <SET>.
3. How to set up ATW is the same as "2.3. ATW".

■ BLC

When the subject gets darker under the bright background in the current PRESET, this function is useful.

How to set up is as follows.

1. Select BLC menu.
2. Press IRIS OPEN KEY in <SET>.
3. How to set up ATW is the same as "2.1. BLC"

<Caution>

1. When setting PRESET by the shortcut key, PRESET can be set in No.1-No.64 and, regarding over No.65, it should be set up by OSD Menu.
2. Default set up value of BRIGHT, BLC and ATW in PRESET is decided by Factory Default.

3.2. TOUR

This function is to repeatedly operate Group Surveillance with programmed presets.

1. TOUR NO:	1 ~ 5
2. TOUR NO DEF:	OFF/<ON>
3. NAME:	TOURGROUP1
4. TOUR NAME DEF:	OFF/<ON>
5. DWELL TIME:	1~120

■ TOUR NO

Maximum 5 groups can be registered.

■ TOUR NO DEF

OFF : TOUR Group setting is cancelled.

ON : TOUR Group is set up.

<Setting example>

TOUR NO	1	2	3	4	5
TOUR DEF	ON	OFF	ON	OFF	ON

TOUR will be executed in programmed preset 1, 3 & 5.

How to set TOUR GROUP 1 in PRESET is as follows.

1. Register "1" as a TOUR NO.
2. After changing TOUR NO DEF from OFF to <ON>, press IRIS OPEN KEY.

1. PRESET NUMBER	OFF/1~128
2. PRESET NUMBER	OFF/1~128
3. PRESET NUMBER	OFF/1~128
4. PRESET NUMBER	OFF/1~128
5. PRESET NUMBER	OFF/1~128

3. Input desirable PRESET No. from 1 in serial order.

4. Press IRIS CLOSE KEY to finalize the setting.

■ NAME

It changes the name of TOUR GOURP,.

How to change the name is as follows.

1. After TOUR NAME DEF changes from OFF to <ON>, press IRIS OPEN KEY.
2. How to change the Tour group name is the same as "1.2 CAMERA NAME DISPLAY".

■ DWELL TIME

It is a waiting time between PRESET execution and next PRESET.

<Caution>

1. If TOUR GOURP1 PRESET is set up as follows.

1. PRESET NUMBER	1
2. PRESET NUMBER	2
3. PRESET NUMBER	3
4. PRESET NUMBER	OFF
5. PRESET NUMBER	4

After operating as PRESET1 -> PRESET2 -> PRESET3, it is returned to PRESET1.

Namely, if there is "OFF" during the operation in serial order, it is returned to the first preset

3.3. SCAN

This function is to surveil the designated two points in the designated speed by automatic travel back and forth.

1. SCAN NO	1 ~ 5
2. SCAN DEFINE	OFF/ON
3. NAME	SCANGROUP1
4. SCAN NAME DEF	OFF/<ON>
5. PAN START POS	<180>
6. PAN END POS	<350>
7. TILT POS	<45>
8. SCAN SPEED	5°,10°,15°,20°/S

■ SCAN NO

Maximum 5 Scans can be registered.

■ SCAN NO DEF

OFF : SCAN is cancelled

ON : SCAN can be set up (it should be "ON" for the operation in AUTO RUN)

<Setting example>

SCAN NO	1	2	3	4	5
SCAN DEF	ON	OFF	ON	OFF	ON

SCAN will be executed in programmed preset 1,3 &5.

How to set up SCAN1 in PRESET is as follows.

1. Register "1" as s SCAN NO.

2. After changing SCAN DEFINE from OFF to <ON>, press IRIS OPEN KEY.

■ NAME

It changes SCAN Name.

How to change is as follows.

1. After changing SCAN NAME DEF from OFF to <ON>, press IRIS OPEN KEY.
2. How to change the SCAN name is the same as “1.2 CAMERA NAME DISPLAY”.

■ PAN START POS

It sets up the initialized location of SCAN.

Controllable angle is 0~ 360° , 0 ~ -360°.

How to set up is as follows.

1. Press IRIS OPEN KEY in PAN START POS.

PAN START POSITION SET
PAN START POSITION: XXX

EXIT: IRIS CLOSE

PAN Shift : LEFT, RIGHT KEY

2. After shifting to a desirable position, press IRIS OPEN KEY.

■ PAN END POS

It sets up the terminated location of SCAN.

Controllable angle is 0°~ 360° , 0°~-360°.

How to set up PAN END POS is the same as “PAN START POS”.

■ TILT POS

It sets up TILT angel in SCAN.

Controllable angle is 0~ 90° .

How to set up is the same as “PAN START POS” but UP, DOWN KEY should be used for TILT operation.

■ SCAN SPEED

It sets up SCAN Speed..

The speed can be set up in 5°/S(Slow) ~ 20°/S(Fast).

* Caution *

The value of Brightness, WDR, ATW is applied to the setting values on the OSD.

3.4. PATTERN

It is to memorize the paths operated with the joystick operation and reenact them.

1. PATT NUMBER	1 ~ 2
2. PATT DEFINE	OFF/ON
3.NAME	PATTERN001
4.PATT NAME DEF	OFF/<ON>
5.PATT RECORD	OFF/<ON>
6.PATT SPEED	5°,10°,15°,20°/S

MENU Shift : UP, DOWN, LEFT, RIGHT KEY

MENU Open : IRIS OPEN KEY

MENU Close : IRIS CLOSE KEY

■ PATT DEFINE

OFF : PATTERN is cancelled

ON : PATTERN is set up.

If operating it in AUTO RUN, PATT DEFINE should to be ON.

■ NAME

It changes PATTERN Name..

How to set up is as follows..

1. After changing PATTERN NAME DEF from OFF to <ON>, press IRIS OPEN KEY.
2. How to change the name is the same as "1.2 CAMERA NAME DISPLAY".

■ PATT RECORD

OFF : PATTERN is not memorized.

ON : PATTERN is momorized.

How to set up PATTERN

1. After PATT RECORD changes from OFF to <ON>, press IRIS OPEN KEY.

MEMORY FILL: XXX (Recorded)

START:IRIS OPEN

EXIT:IRIS CLOSE

PAN/TILT Shift :UP,DOWN,LEFT,RIGHT

2. Move PAN/TILT to the desirable position before starting PATTERN.
3. Press IRIS OPEN KEY to start the process
4. Press IRIS CLOSE to save the process.

* Caution *

1. If there is no PAN/TILT movement, no PATTERN is memorized.
2. The value of Brightness, WDR, ATW is applied to the setting values on the OSD.

4. ZONE SET

- | | |
|----------------|--------|
| 1.AREA SEL | 1 ~ 8 |
| 2.AREA DEFINE | OFF/ON |
| 3.AREA NEW SET | OFF/ON |

4.TOP/BOTTOM-1	XXX
5.TOP/BOTTOM-2	XXX
6.LEFT/RIGHT-1	XXX
7.LEFT/RIGHT-2	XXX

MENU Shift : UP, DOWN, LEFT, RIGHT KEY

MENU Open : IRIS OPEN KEY

MENU Close : IRIS CLOSE KEY

■ AREA SEL

Up to 8 PRIVACY AREAs can be set up.

■ AREA DEFINE

OFF : PRIVACY ZONE is not activated..

ON : PRIVACY ZONE is activated.

■ AREA NEW SET

OFF : Previous PRIVACY ZONE is activated.

ON : New PRIVACY ZONE is set up from the current PAN/TILT position.

(When it switches from OFF to ON, PRIVACY ZONE appears in the center on the screen.)

* How to set up PRIVACY ZONE1*

1. When the MENU is OFF, locate PRIVACY ZONE block in the center on the screen by using PAN/TILT function.
2. Press IRIS OPEN KEY to activate MENU and move to "ZONE SET". And then, press IRIS OPEN KEY again.
3. Change AREA SEL to 1.
4. Change AREA DEFINE from OFF to ON.
5. Change AREA NEW SET from OFF to ON.
6. New ZONE is activated in the center on the screen and the ZONE can be moved by TOP, BOTTOM, LEFT, RIGHT key.
7. Press IRIS CLOSE KEY to finalize the set up.

5. INITIALIZE SET

1. POWER ON RESET
2. PAN/TILT INIT
3. CAMERA INIT
4. AUTO SEQ INIT
5. PRIVACY ZONE INIT
6. FACTORY INIT

MENU Shift : UP, DOWN

MENU Open : IRIS OPEN KEY

MENU Close : IRIS CLOSE KEY

■ POWER ON RESET

The unit is initialized.

■ PAN/TILT INIT

1. PAN/TILT MENU is initialized.
2. PAN/TILT location is initialized.

■ CAMERA INIT

Only CAMERA setting menu is initialized..

■ AUTO SEQ INIT

1. Only AUTO SEQ menu is initialized.
2. Setting angle of PRESET and Memory of PATTERN are not initialized.

■ PRIVACY ZONE INIT

PRIVACY ZONE is initialized.

■ FACTORY INIT

All set ups are initialized as a factory default.

※ WTX-1200A – Simple PRESET Setting ※

It works when OSD MENU is not activated.

e.g.> How to set up PRESET 1



Presetnumber



PRESET (F1)

1. Place PAN/TILT/ZOOM to a desirable place by Joystick.
2. Press Keypad No. 1.
3. Press F1 Key till "SET OK" appears in the bottom right on the screen.

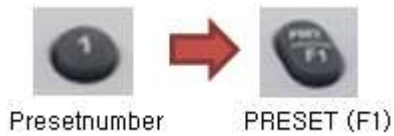
<Caution>

When setting PRESET by the shortcut key, PRESET can be set in No.1-No.64 and, regarding over No.65, it should

be set up by OSD Menu.

※ WTX-1200A – Simple PRESET Shift ※

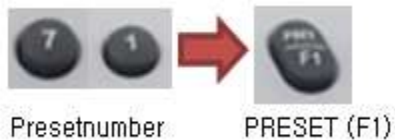
It works when OSD MENU is not activated.



Press F1 key shortly after pressing RRESET number. And then, it moves to the corresponding PRESET. However, it is valid only up to PRESET no. 32 of which PRESET DEFINE is set to ON.

※ WTX-1200A - Simple TOUR operation ※

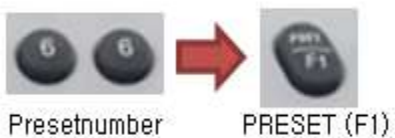
It works when OSD MENU is not activated



Press F1 key shortly after pressing Keypad No. 71. It works when TOUR DEFINE is ON and TOUR related MENU is set up properly.

※ WTX-1200A - Simple PATTERN operation ※

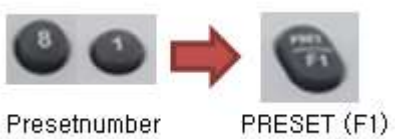
It works when OSD MENU is not activated



Press F1 key shortly after pressing Keypad No. 66. It works when PATTERN DEFINE is ON and PATTERN related MENU is set up properly.

※ WTX-1200A - Simple SCAN operatin ※

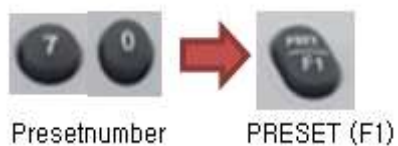
It works when OSD MENU is not activated



Press F1 key shortly after pressing Keypad No. 81. It works when SCAN DEFINE is ON and SCAN related MENU is set up properly.

※ WTX-1200A - Simple Sequency operation ※

It works when OSD MENU is not activated



Press F1 key shortly after pressing Keypad No. 70. It works when PRESET is set up.

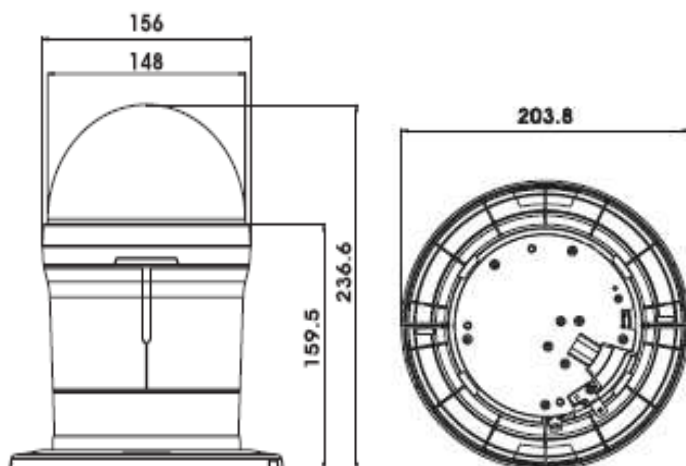
※ Quick Operation Key Table ※

[PELCO D /P PROTOCOLS]

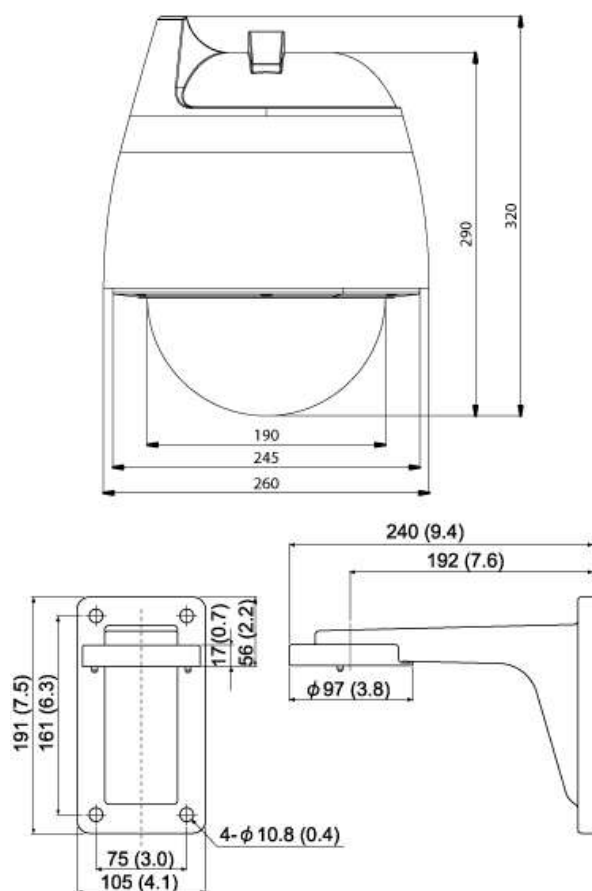
Number	Function
1~64+Preset	Setting Preset Press Preset button over 2 seconds.
1~64+Preset	Executing Preset
66+Preset	Executing Scan
70+Preset	Executing Sequency
71+Preset	Executing Tour
81+Preset	Executing Pattern
95+Preset	IRIS OPEN (OSD Menu)
96+Preset	IRIS CLOSE

6. Produce Structure(mm)

Indoor



Outdoor



7. Specification

Model	27x/ 33x/ 37x Speed Domes
Image sensor	1/4" Super HAD CCD(27x)/ Color Vertical Double Density CCD(33x, 37x)
Effective Pixels	NTSC : 768(H) x 494(V), PAL : 752(H) x 582(V)
H. Resolutions	550TVL(Color)/ 680TVL(B/W)
Synchronizing system	Internal
Scanning system	2:1 Interlaced
Video output	VBS : 1.0Vp-p Composit, 75 ohms
S/N Ratio	More than 50dB(AGC off)
Min. illumination	0.7Lux/F1.6(Color), 0.0002Lux(Sens-ups, x256), 0.06Lux/F1.6(B/W)
OSD	On/ Off
Digital zoom	On/ Off(x2, x4, x8, x10, x12)
Day & Night	Color/ BW/ AUTO(ICR)
Back Light Compensation	WDR(for 33x, 37x only)/ BLC/ HLC/ Off
Shutter Speed	Auto/ Manual(NTSC : 1/60~1/120,000 sec., PAL : 1/50 ~ 1/120,000 sec.)
White Balance	AWD/ Manual/ ATW(1,800°K ~ 10,500°K)

Gain Control	Low/ Middle/ High/ Off
Sens-up	On/ Off(2x ~ 256x)
3D Noise Filter	Low/ Middle/ High/ Off
Privacy	On/ Off(8 Programmable zones)
Preset	256 Points
Digital Flip	On/ Off
Focus control	Auto/ Manual/ One Push
Iris control	Auto/ Manual
Motion Detection	On/ Off(Built-in Alarm output connector)
Protocol	RS-485(PELCO-D/P)
Power Source	24VAC
Operating current	20W Max.
Lens	Auto Focus Digital zoom

Zoom ratio	37x	F3.5~129.5mm(F1.6)
	33x	F3.5~115.5mm(F1.6)
	27x	F3.5~94.5mm(F1.6)
Angle of view	37x	H : 55.5°(Wide) ~ 1.59°(Tele), V : 42.5°(Wide) ~ 1.19°(Tele)
	33x	H : 56.3°(Wide) ~ 1.77°(Tele), V : 43.2°(Wide) ~ 1.33°(Tele)
	27x	H : 55.5°(Wide) ~ 2.24°(Tele), V : 42.5°(Wide) ~ 1.79°(Tele)

Aperture ratio	37x : F1.6~F3.9, 33x : F1.6~F3.6, 27x : F1.6~F2.9
Pan/Tilt angle	Pan : 360°(400°/sec.), Tilt : -3°~180°(300°/sec.)
Operating temperature	14°F~122°F(-10°C ~ +50°C)
Heater option(Outdoor)	-40°F~122°F(-40°C ~ +50°C)
Humidity	Within 90% RH
Measurement(mm)	Indoor : 156(Ø) x 236.6(H) Outdoor : 260(Ø) x 367(H)
Weight(Approx.g)	3,500(Indoor)/ 5,500(Outdoor)